

REMARKS

Claims 1, 2 and 4 through 6 are pending in this Application. Claims 1 and 6 have been amended and claim 3 canceled. Care has been exercised to avoid the introduction of new matter. Specifically, the limitations of claim 3 have been incorporated into claims 1 and 6, and claims 1 and 6 further clarified by reciting that the refractive-index profile is based on at least the numerical distribution density of the minute region and the individual size of the minute regions. Applicant submits that the present Amendment does not generate any new matter issue.

Claims 1 through 6 were rejected under 35 U.S.C. § 103 for obviousness predicated upon Garito et al.

In the statement of the rejection the Examiner asserted that Garito et al. disclose an optical waveguide corresponding to that claimed although different terminology is employed for different elements. Based on that determination, the Examiner concluded the claim inventions would have been obvious. This rejection is traversed.

There is a fundamental difference between the claimed optical waveguide and method and the optical waveguide and method disclosed by Garito et al. that undermines the obviousness conclusion under 35 U.S.C. § 103. Specifically, in the claimed inventions, a multitude of gas submedia are provided with a refractive-index profile based on **at least one of**: (1) the numerical distribution density of minute regions; and (2) the individual size of the minute regions. No such optical waveguide having a refractive-index profile is disclosed or suggested by Garito et al.

Further, the above argued difference is functionally significant. This is because the minute regions are formed with a submedia made of **gas**. Therefore, the refractive index of the minute regions, which is almost 1.0, differs from that of the main medium, thereby enabling

transmitted light to be well confined. Furthermore, the transmission loss of light is small, because absorption of a gas by a gas is generally small. The use of gas minute regions is also advantageous from the aspect of production, because the main medium rarely break due to stress induced by thermal expansion coefficient mismatch between the main media and the submedia.

In rejecting claim 3, the Examiner asserted that one having ordinary skill in the art would have been motivated to employ a gas submedia. But the Examiner failed to comply with judicial precedent by proffering a **factual basis** to support that conclusion. Applicant would stress that when a claim is rejected under 35 U.S.C. § 103 the Examiner must provide a factual basis for the requisite motivational element. As held by the Court of Appeals for the Federal Circuit in *Teleflex Inc. v. Ficosa North America Corp.*, 299 F.3d 1313, 63 USPQ2d 1374 at 1387 (Fed. Cir. 2002), regardless of the source of motivation:

The showing of a motivation to combine must be clear and particular, and it must be supported by actual evidence.

Based upon the foregoing it should be apparent that a *prima facie* basis to deny patentability to the claimed invention has **not** been established. Moreover, as previously pointed out, the use of gas submedia is particularly advantageous in the present invention, wherein the refractive-index profile is based on at least a numerical distribution density of minute regions and/or the individual size of minute regions, noting that refractive index of the minute regions is almost 1.0 and enables transmitted light to be well confined, avoids transmission loss and avoids breaking due to mismatch of thermal expansion coefficients.

Notwithstanding the Examiner's assertion that the use of a gas would have been obvious, there is no basis in Garito et al. to conclude that one having ordinary skill in the art would have been led to provide an optical waveguide as in the present invention wherein a refractive-index profile is based on **at least one** a numerical distribution density of minute regions and the

individual size of minute regions. Applicant notes that the refractive-index profile can also be made with a foaming agent as disclosed at page 13 of the written description of the specification, lines 1 through 8. To formulate the refractive-index profile based upon the numerical distribution density of minute regions and/or the individual size of minute regions is not a simple matter. The Examiner is not free to employ Applicant's disclosure and then engage in a retrospective assessment of the prior art. *Panduit Corp. v. Dennison Mfg. Co.*, 774 F.2d 1082, 227 USPQ 337 (Fed. Cir. 1985).

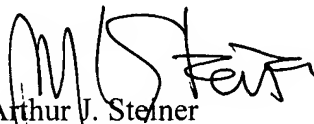
Based upon the foregoing it should be apparent that a *prima facie* basis to deny patentability to the claimed invention has not been established for lack of the requisite factual basis and want of the requisite realistic motivation. Applicant, therefore, submits that the imposed rejection of claims 1 through 6 under 35 U.S.C. § 103 for obviousness predicated upon Garito et al. is not factually or legally viable and, hence, solicits withdrawal thereof.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Application No.: 10/730,052

Respectfully submitted,

McDERMOTT WILL & EMERY LLP

A handwritten signature in black ink, appearing to read 'MJS' followed by a stylized flourish.

Arthur J. Steiner
Registration No. 26,106

600 13th Street, N.W.
Washington, DC 20005-3096
Phone: 202.756.8000 AJS:bjs:ntb
Facsimile: 202.756.8087
Date: September 29, 2005

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